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## FIGURE 1

5'-tccatctcgggggtgcaacaggaagtgaccgggcaagccaaggctttcctgtccttcgag 60  
 S I S G V Q Q E V T R Q A K A F L S F E 20  
 aggatgccggagatccagctgagccgcccgcgtccaaccgggagaaaacctggctgtgg 120  
 R M P E I Q L S R R R S N R E K P W L W 40  
 ttccgaccgccaagtctctgatcggttaagggtgtcatgttggcggtgacgcagggccgt 180  
 F A T A K S L I G K G V M L A V T Q G R 60  
 gtggtcaccaacgctctgaacatcgccaacgaggactgcatcaaggctcgccgcccgtcctc 240  
 V V T N A L N I A N E D C I K V A A V L 80  
 aacaatgcgtttctacctggaggacctgcacttcacggtggaggggacgcgacacgcactac 300  
 N N A F Y L E D L H F T V E G R D T H Y 100  
 ttcatcaagaccagcctcccggagagcgacctgggagcgctgaggctgacaagcgggagg 360  
 F I K T T S L P E S D L G A L R L T S G R 120  
 aagtcgctgggagaacggaagtcaacgtgactgtgtcccagtcaccaccggtggtgaacgg 420  
 K S L E N G V N V T V S Q S T T V V N G 140  
 cagaaccggcgcttcgcccagctggagctgcagtacggcgctctagcgctccacgtgcgc 480  
 R T R R F A D V E L Q Y G A L A L H V R 160  
 tatggcatgactctggacgaggagaaggcgcgctgtgtgctggagcaggccaggcagaaggcg 540  
 Y G M T L D E E K A R V L E Q A R Q K A 180  
 ttgtcgagtgacctgtggtccaggggagcaacaacgggtgagggagggggaggaggggggtgagg 600  
 L S S A W S R E Q Q R V R E G E E G V R 200  
 ctgtggacgggaggggagaaaggagcgtgctgagcgggaggaagggttctgggctacgac 660  
 L W T E G E K R Q L L S G R K V L G Y D 220  
 gggctactacgtcctctccatagagcagtacccccgagctagcagactccgctaacaacatc 720  
 G Y Y V L S I E O Y P E L A D S A N N I 240  
 cagttcctcaggcagagcgaaataggggaagggttaa (SEQ.ID.NO.2) 756  
 Q F L R Q S E I G K R stop (SEQ.ID.NO.3) 751  
 cagacagaatcctcggcactggcc 780  
 gccaaagagactacccccctccaaatcctgcccccaacctccctcgccctcccccttttc 840  
 tctaaaaagggggaggggtccaggctagtgtgtgttttagcgccgactagctgaaacaaac 900  
 agtaaaatgtagaatatcttaaaactgaactatacctaataactaccactgtggggcctgaa 960  
 aatcaaaacaaaacgggtccaactgacgcaaagtgttgtcccatgtgtctatacagcgttga 1020  
 atggactgtggactctcttgaagaagagagaaaaaaagtcaaaactctcggtttgtgaaa 1080  
 ggagaaaaaaacgttttttttttttttaaatagacttccctgaatttgctttcggaaaaaa 1140  
 tatttttaaaaagaaagaagaatgtgtttacatacgcataaactacaacacgtctggac 1200  
 taatagaagaaaagccttctggtttcttacacaggacaacgtctataatctgattctaca 1260  
 tcctgacgactgacctttgattgacctttgcgtactgaaaaaggtagtgttgttgttcgc 1320  
 agtaggaccatgggtctccaatgggtggttaactagacagttaaaaccacttgttgaaacca 1380  
 cttgcttgttcttctgctttttcttccaaaagggacaaaacagctcccaccaagtgactt 1440  
 ctttaccaatactagatcaaagtgggacgttttgggctcgtgccgaattc-3' (SEQ.ID.NO.1) 1490

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## FIGURE 2

O.mykiss Ten M3  
 R.danio Ten M3  
 M.musculus Ten M3  
 H.sapiens Ten M3

SISGVQOEVTROAKAFLSFERMPEIQLSRRRSNREKPLWLFATAKSLIGK  
 SISGVQOEVMROAKAFLSFERMPEIQLSRRRSSREKPLWLFATVKSIGK  
 EIEGVQOOVAROAKAFLSLGKMAEVQVSRRKAGAEQSWLWFATVKSIGK  
 EIEGVQOOVAROAKAFLSLGKMAEVQVSRRRAGGAQSWLWFATVKSIGK

O.mykiss Ten M3  
 R.danio Ten M3  
 M.musculus Ten M3  
 H.sapiens Ten M4

GVMLAVT QGRVVTNALNIANEDCIKVAAVLNNAFYLEDLHFTVEGRDTH  
 GVMLAITSKGOVATNALNIANEDCIKVTVLNNAFYLEDLHFTVEGRDTH  
 GVMLAVS QGRVQTNVLNIANEDCIKVAAVLNNAFYLENLHFTIEGKDT  
 GVMLAVS QGRVQTNVLNIANEDCIKVAAVLNNAFYLENLHFTIEGKDT

O.mykiss Ten M3  
 R.danio Ten M3  
 M.musculus Ten M3  
 H.sapiens Ten M3

YFIKTSLPESDLGALRLTSGRKSLENGVNVTVSQSTTVVNGRTRRFADVE  
 YFIKTSLPESDLGALRLTSGRKSLENGVNVTVSQSTTVVNGRTRRFADVE  
 YFIKTTLPESDLGTLRLTSGRKALENGENVTVSQSTTVVNGRTRRFADVE  
 YFIKTTLPESDLGTLRLTSGRKALENGENVTVSQSTTVVNGRTRRFADVE

O.mykiss Ten M3  
 R.danio Ten M3  
 M. musculus Ten M3  
 H. sapiens Ten M3

LQYGALALHVRYGMTLDEEKARVLEQAROKALSSAWSREQQVRREGGEGV  
 LQYGALALHVRYGMTLDEEKARVLEQAROPALSSAWAREQQQVRDGEEGV  
 MOFGALALHVRYGMTLDEEKARILEQAROPALARAWAREQQQVRDGEEGA  
 MOFGALALHVRYGMTLDEEKARILEQAROPALARAWAREQQQVRDGEEGA

O.mykiss Ten M3  
 R.danio Ten M3  
 M.musculus Ten M3  
 H. sapiens M3

RLWTEGEKROLLSGRKVLGYDGYVLSIEQYPELADSANNIQFLRQSEIG  
 RLWTEGEKROLLSSGKVLGYDGYVLSVEQYPELADSANNVQFLRQSEIG  
 RLWTEGEKROLLSAGKVQGYDGYVLSVEQYPELADSANNIQFLRQSEIG  
 RLWTEGEKROLLSAGKVQGYDGYVLSVEQYPELADSANNIQFLRQSEIG

O. mykiss Ten M3  
 R. danio Ten M3  
 M. musculus Ten M3  
 H. sapiens Ten M3

KR (SEQ.ID.NO.3)  
 KR (SEQ.ID.NO.12)  
 KR (SEQ.ID.NO.6)  
 KR (SEQ.ID.NO.10)

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## FIGURE 3

Mouse Teneurin 1	MILGIQCELOKQLRNFIISLDQLPMTPOYNEGRCLIEGGKQPRFAAVPSVFG
Mouse Teneurin M2	LITGVQQTTERHNOAFLALEGQVITKKLHAS IREKAGHWFATTTPIIG
Mouse Teneurin M3	PIFGVQQQVARQAKAFLSL GKMAEVQVSRRKAGAEQSWLWFATVKSLIG
Mouse Teneurin M4	SILGVQCEVQKQLKAFVTLERFDQLYGSTITSCQQAPETKKFASSGSIFG
Mouse Teneurin 1	KGIKFATKEGIVTADIIGVANEDSRRLAAILNNAHYLENLHFTIEGRDTH
Mouse Teneurin 2	KGIMFAIKEGRVTTGVSSIASEDSRKVASVLNNAYYLDKMHSIEGKDTH
Mouse Teneurin 3	KGVMLAVSQGRVQTNVLNIANEDCIKVAAVLNNAFYLENLHFTIEGKDTH
Mouse Teneurin 4	KGVKFALKDGRVTTDIISVANEDGRRIAAILNNAHYLENLHFTIDGVDTH
Mouse Teneurin 1	YFIKLGSLIEDLVILGNTGGRRILENGVNVTVSQMTSVLNGRTRRFADIQ
Mouse Teneurin 2	YFVKIGAADGDLVTLGTTIGRKVLESGVNVTVSQPTLLVNGRTRRFTNIE
Mouse Teneurin 3	YFIKTTTPESDLGTLRLTSGRKALENGINVTVSQSTTVNGRTRRFADVE
Mouse Teneurin 4	YFVKPGPSEGDILAILGLSGGRRITLENGVNVTVSQINTML
Mouse Teneurin 1	LQHGALCFNIRYGT VEEKNHVLEMARQRAVAQAWTQEQRRLQEGE
Mouse Teneurin 2	FQYSTLLLSIRYGLTPDTLDEEKARVLDQAGQALGTAWAKEQQKARDGR
Mouse Teneurin 3	MQFGALALHVRYGMT LDEEKARILEQARQRALARAWAREQQRVRDGE
Mouse Teneurin 4	IQLOYRALCLNTRYGT TVDEEKVRVLELARQRAVRQAWAREQQRRLREGE
Mouse Teneurin 1	EGTRVWTEGEKQQLLGTRVQGYDGYFVLSVEQYLELSDSANNIHFMRS
Mouse Teneurin 2	EGSRLWTEGEKQQLLSTGRVQGYEGYYVLPVEQYPELADSSNIQFLRQ
Mouse Teneurin 3	EGARLWTEGEKQQLLSAGKVQGYDGYVLSVEQYPELADSSANNIHFMRS
Mouse Teneurin 4	EGLRAWTDGEKQQLNTGRVQGYDGFFVTSVEQYPELSDSANNIHFMRS
Mouse Teneurin 1	EIGRR (SEQ.ID.NO.4)
Mouse Teneurin 2	EMGKR (SEQ.ID.NO.5)
Mouse Teneurin 3	EIGKR (SEQ.ID.NO.6)
Mouse Teneurin 4	EMGRR (SEQ.ID.NO.7)

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## FIGURE 4

Human Ten M1	TILGIQCELOKQLRNFISL	D QLEPMTRYNDGRCLEGGKQ	PRFA
Human Ten M2	LITGVQQTTERHNAFMALE	GQV ITKKLHASIREKAGHW	FA
Human Ten M3	PIFGVQQQVARQAKAFLSLGKMAEVQV	SRRRAGGA	QS WLW FA
Human Ten M4	SILGVQCEVQKQLKAFVTLE	FD QL YGSTITSCLQAPKT	KKFA
Human Ten M1	AVPSVFGKGIKFAIKDGI	VTADIIGVANEDSRRLAAILNNAHYLENLHFT	
Human Ten M2	TTTPIIGKGIMFAIKEGRV	TGVSIIASEDSRKVASVLNNAYYLDKMHYS	
Human Ten M3	TVKSLIGKGVMLAVSQGRV	QTNVLNANEDCIKVAAVLNNAFYLENLHFT	
Human Ten M4	SSGSVFGKGVKFKALDGRV	TTDIISVANEDGRRVAAILNNAHYLENLHFT	
Human Ten M1	IEGRDTHYFIKLSLEEDIV	LIGNTGRRILENGVNVTVSQMTSVLNGRT	
Human Ten M2	IEGKDTHYFVKIGSADGDL	VTGTTIGRKVLESGVNVTVSQPTLLVNGRT	
Human Ten M3	IEGKDTHYFIKTTTPESDL	GLTLRLTSGRKALENGINVTVSQSTTVVNGRT	
Human Ten M4	IDGVDTHYFVKPGPSEGD	LAILGLSGGRRILENGVNVTVSQINTVLSGRT	
Human Ten M1	RRFADIQLQHGA	LCFNIRYGT	VEEEKNHVLEIARQRAVAQAWTKEQ
Human Ten M2	RRFTNIEFQYSTLLS	IRYGLTPDTLDEEKARVLDQARQALGTAWAKEQ	
Human Ten M3	RRFADVEMQFGALALH	VRYGMT LDEEKARILEQARQALARAWAREQ	
Human Ten M4	RRYTDIQLQYGALCLN	TRYGT LDEEKARVLELARQRAVRQAWAREQ	
Human Ten M1	RRLQEGEGIRAWTEGEKQ	QOLLSTGRVQGYDGYFVLSVEQYLELSDSANN	
Human Ten M2	QKARDGREGSRLWTEGEKQ	QOLLSTGRVQGYEGYYVLPVEQYPELADSSN	
Human Ten M3	QVRDGEEGARLWTEGEKQ	QOLLSTGRVQGYDGYFVLSVEQYPELADSSN	
Human Ten M4	QRLREGEGLRAWTEGEKQ	QVLSSTGRVQGYDGYFVLSVEQYPELADSSN	
Human Ten M1	IHFMRQSEIGRR	(SEQ.ID.NO.8)	
Human Ten M2	IQFLRQNEGMKR	(SEQ.ID.NO.9)	
Human Ten M3	IQFLRQSEIGRR	(SEQ.ID.NO.10)	
Human Ten M4	IHFMRQSEMGR	(SEQ.ID.NO.11)	

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## FIGURE 5

## Human TCAP-1

cag cag ctt ttg agc act ggg cgg gta caa  
ggt tac gat ggg tat ttt gtt ttg tct gtt  
gag cag tat tta gaa ctt tct gac agt gcc  
aat aat att cac ttt atg aga cag agc gaa  
ata ggc agg agg taa

(SEQ.ID.NO.76  
+stop codon)

## Human TCAP-2

cag cag ctt ctg agc acc ggg cgc gtg caa  
ggg tac gag gga tat tac gtg ctt ccc gtg  
gag caa tac cca gag ctt gca gac agt agc  
agc aac atc cag ttt tta aga cag aat gag  
atg gga aag agg taa

(SEQ.ID.NO.84  
+stop codon)

## Human TCAP-3

cgg cag ctg ctg agc gcc ggc aag gtg cag  
ggc tac gac ggg tac tac gta ctc tcg gtg  
gag cag tac ccc gag ctg gcc gac agc gcc  
aac aac atc cag ttc ctg cgg cag agc gag  
atc ggc agg agg taa

(SEQ.ID.NO.92  
+stop codon)

## Human TCAP-4

cag cag gtg ctg agc aca ggg cgg gtg caa  
ggc tac gac ggc ttt ttc gtg atc tct gtc  
gag cag tac cca gaa ctg tca gac agc gcc  
aac aac atc cac ttc atg aga cag agc gag  
atg ggc cgg agg tga

(SEQ.ID.NO.100  
+stop codon)

## Mouse TCAP-1

cag cag ctt ttg ggc acc ggg agg gtg cag  
ggg tat gat ggg tat ttt gtc ttg tct gtt  
gag cag tat tta gaa ctt tca gac agt gcc  
aac aat att cac ttc atg aga cag agt gaa  
ata ggc agg agg taa

(SEQ.ID.NO.44  
+stop codon)

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**FIGURE 5 (CONT'D)**

## Mouse TCAP-2

cag caa ctc ctg agc acg gga cgg gta caa  
ggt tat gag ggc tat tac gta ctt ccg gtg  
gaa cag tac ccg gag ctg gca gac agt agc  
agc aac atc cag ttc tta aga cag aat gag  
atg gga aag agg taa

(SEQ.ID.NO.52  
+stop codon)

## Mouse TCAP-3

cgg cag ctg ctg agc gct ggc aag gtg cag  
ggc tac gat ggg tac tac gta ctg tcg gtg  
gag cag tac ccc gag ctg gct gac agt gcc  
aac aac atc cag ttc ttg cga caa agt gag  
atc ggc aag agg taa

(SEQ.ID.NO.60  
+stop codon)

## Mouse TCAP-4

cag cag gtg ctg aac acg ggg cgg gtg caa  
ggc tac gac ggc ttc ttt gtg acc tcg gtc  
gag cag tac cca gaa ctg tca gac agc gcc  
aac aat atc cac ttc atg aga cag agc gag  
atg ggc cga agg tga

(SEQ.ID.NO.68  
+stop codon)

## Zebrafish TCAP-3

agg cag ttg ctc agc tct ggg aag gtg ctg  
ggt tac gat ggt tac tat gta cta tca gtg  
gag caa tac cct gaa ctg gcc gac agt gcc  
aac aat gtc cag ttc ttg agg cag agt gag  
ata ggg aag agg taa

(SEQ.ID.NO.28  
+stop codon)

## Zebrafish TCAP-4

cag cag ctc cta agc tct gga cgt gta cag  
ggc tac gaa ggc ttc tac ata gta tca gtc  
gac cag ttc cca gag ttg act gac aac ata  
aat aac gtc cat ttc tgg cga cag act gag  
atg gga cgc agg tga

(SEQ.ID.NO.36  
+stop codon)

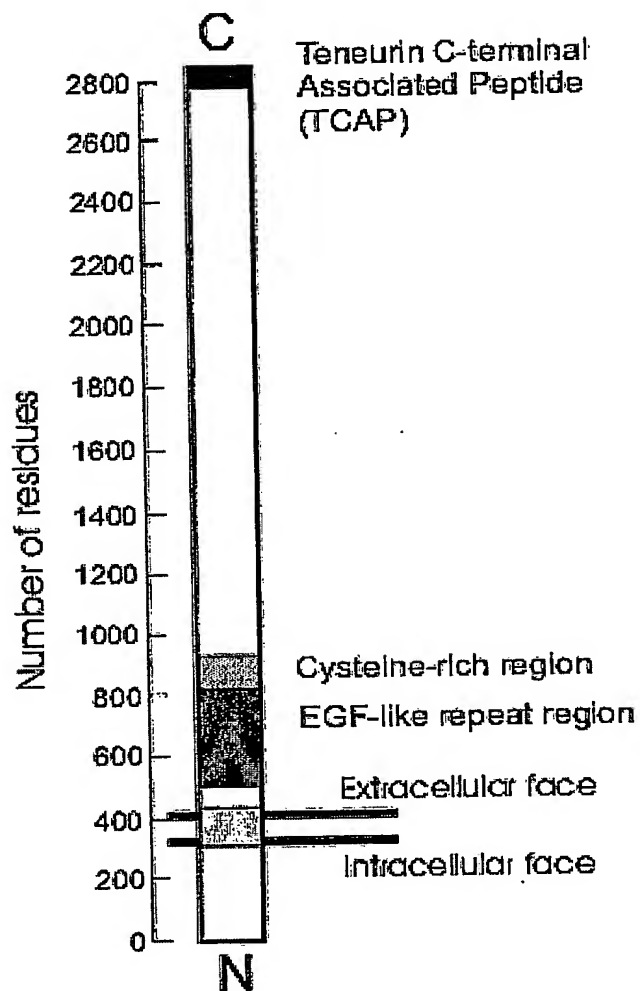
## Rainbow Trout TCAP-3

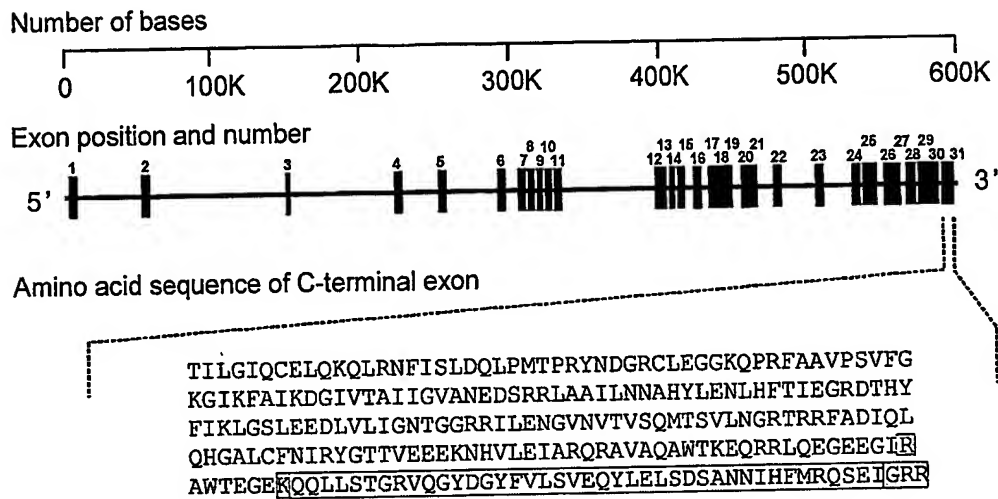
5'-agg cag ctg ctg agc ggg agg aag gtt ctg  
ggc tac gac ggg tac tac gtc ctc tcc ata  
gag cag tac ccc gag cta gca gac tcc gct  
aac aac atc cag ttc ctc agg cag agc gaa  
ata ggg aag agg taa-3'

(SEQ.ID.NO.20  
+stop codon)

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FIGURE 6A



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FIGURE 6B



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Mammalian TCAP Sequences		Accession Numbers
human TCAP 1	QQLSTGRVQGGYDGYFVLSVEQYIELSDSANNIHFMROSEI-NH2	nm_014253 (SEQ. ID. NO. 69)
human TCAP 2	QQLSTGRVQGGYGYVLPVEQYPELADSSNIQFLRONEM-NH2	xm_047995 (SEQ. ID. NO. 78)
human TCAP 3	QLLSAGKVQGGYDGYVLSVEQYPELADSANNIQFLROSEI-NH2	ak001336 (SEQ. ID. NO. 85)
human TCAP 4	QQVSTGRVQGGYDGFVISVEQYPELSDSANNIHFMROSEM-NH2	ak056531 (SEQ. ID. NO. 94)
mouse TCAP 1	QQLSGTGRVQGGYDGYFVLSVEQYIELSDSANNIHFMROSEI-NH2	nm_011855 (SEQ. ID. NO. 37)
mouse TCAP 2	QQLSTGRVQGGYGYVLPVEQYPELADSSNIQFLRONEM-NH2	nm_011856 (SEQ. ID. NO. 76)
mouse TCAP 3	QLLSAGKVQGGYDGYVLSVEQYPELADSANNIQFLROSEI-NH2	nm_011857 (SEQ. ID. NO. 53)
mouse TCAP 4	QQVLTGRVQGGYDGFVTSVEQYPELSDSANNIHFMROSEM-NH2	ab025413 (SEQ. ID. NO. 66)
Rat TCAP 2	QQLSTGRVQGGYGYVLPVEQYPELADSSNIQFLRONEM-NH2	nm_020088 (SEQ. ID. NO. 78)
Avian TCAP Sequences		
chicken TCAP 1	QQLLNTGRVQGGYDGYFVLSVEQYIELSDSANNIHFMROSEI-NH2	aj238613 (SEQ. ID. NO. 101)
chicken TCAP 2	QQLLNTGRVQGGYGYVLPVEQYPELADSSNIQFLRONEM-NH2	aj279031 (SEQ. ID. NO. 136)
Piscine TCAP Sequences		
Rainbow trout TCAP 3	QLLSGRKVLGYDGYVLSIEQYPELADSANNIQFLROSEI-NH2	not entered Yet (SEQ. ID. NO. 13)
zebrafish TCAP 3	QLLSGKVLGYDGYVLSVEQYPELADSANNVQFLROSEI-NH2	nm_130968 (SEQ. ID. NO. 21)
zebrafish TCAP 4	QLLSGRVQGGYGYIVSDQFFELTDNINNVHFWROTEM-NH2	ab026980 (SEQ. ID. NO. 30)
Insect Drosopholia	ELVQHGDVDGWNG1DIHSIHKYPQLADOPGNVAFQORDAK	(SEQ. ID. NO. 103)

FIGURE 7A

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FIGURE 7B

Protein name	Species	Truncated peptide	% Identical	% Homolog
Ten-m1/odd Oz1	<i>M musculus</i>	QLLGSTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEI	100	
Teneurin-1	<i>G gallus</i>	QLLNTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEI	97	97
Odz (odd Oz1/ten-m1) / tenascin M	<i>H sapiens</i>	QLLSTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEI	97	97
Mouse DOC4-like protein	<i>H sapiens</i>	QLLSTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEI	97	97
DOC4/Ten-m4 / odd Oz4	<i>M musculus</i>	QMLNTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEM	85	92
Similar to odd Oz4/ten-m4/ KIAA1302 protein	<i>H sapiens</i>	QMLSTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEM	85	95
Hypothetical protein/ DKFZp564O0423.1 (fragment)	<i>H sapiens</i>	QMLSTGRVQGYDGYFVLSVEQYLELSDSANNIHFMROSEM	85	95
odd Oz/ten-m3/ ODZ3	<i>M musculus</i>	QLLSAGKVGQYDGYFVLSVEQYLELSDSANNIQFTRQSEI	80	90
Hypothetical protein FLJ10474; FLJ10886; unnamed protein products: AK001336, AK027473, AK001748	<i>H sapiens</i>	QLLSAGKVGQYDGYFVLSVEQYLELSDSANNIQFTRQSEI	80	90
Putative (AK011924)	<i>M musculus</i>	QLLSAGKVGQYDGYFVLSVEQYLELSDSANNIQFTRQSEI	80	90
N/A	<i>R trout</i>	QLLSGRVVLGYDGYFVLSVEQYLELSDSANNIQFTRQSEI	80	90
Ten-m3	<i>D rerio</i>	QLLSGKVLGYDGYFVLSVEQYLELSDSANNIQFTRQSEI	75	90
Neurestin alpha	<i>R norvegicus</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Teneurin-2	<i>G gallus</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Ten-m2/ ODZ2/ odd Oz2	<i>M musculus</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Odd Oz/ten-m2/ KIAA1127 protein / hypothetical protein	<i>H sapiens</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Hypothetical protein	<i>H sapiens</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Odd Oz/ten-m2	<i>H sapiens</i>	QLLSTGRVQGYEGYFVLPVEQYPELADSSNNIQFTRONEM	70	90
Ten-m4	<i>D rerio</i>	QLLSGGRVQGYEGYFVLPVEQYPELADSSNNIHFWROTEM	57	89
odd Oz/tenascin-like protein/Ten-m gene product	<i>D melanogaster</i>	ELVHOHGDVDCNNGIDLHSFHHYPCLADDPGNMAFORDAK	30	60

CRF Peptide Family	
human CRF	SEEPPI <del>SLD</del> LTFFH <del>LR</del> EV <del>LE</del> MA <del>RA</del> EQ <del>LA</del> Q <del>QA</del> HS <del>NR</del> <del>LE</del> ME <del>IL</del> (SEQ. ID. NO. 104)
human urocortin	DNPSLS <del>LD</del> LTFFH <del>LR</del> TE <del>LE</del> ARTQ <del>SQ</del> RE <del>RA</del> EQ <del>NR</del> I <del>TF</del> DS <del>V</del> (SEQ. ID. NO. 105)
human urocortin 2	IVLS <del>LD</del> PIGL <del>IQ</del> TE <del>LE</del> Q <del>AR</del> AR <del>AE</del> Q <del>AT</del> NA <del>RL</del> AR <del>LE</del> (SEQ. ID. NO. 106)
human urocortin 3	FTLS <del>LD</del> PTN <del>LM</del> N <del>LE</del> NT <del>AK</del> AK <del>NL</del> RA <del>QA</del> A <del>AN</del> LE <del>MA</del> Q <del>L</del> (SEQ. ID. NO. 107)
TCAP Peptide Family	
human TCAP 1	QQLLS <del>TGR</del> VQGYD <del>GG</del> EVLS <del>VE</del> QY <del>LE</del> LS <del>DS</del> SANN <del>TH</del> EM <del>RO</del> SE <del>I</del> (SEQ. ID. NO. 70)
human TCAP 2	QQLLS <del>TGR</del> VQGY <del>EG</del> YVLP <del>VE</del> QY <del>PE</del> LAD <del>SS</del> NI <del>Q</del> FL <del>PQ</del> EN <del>EM</del> (SEQ. ID. NO. 78)
human TCAP 3	QQLLSAG <del>RV</del> QGYD <del>GG</del> YVLS <del>VE</del> QY <del>PE</del> LAD <del>SS</del> ANN <del>I</del> Q <del>FL</del> RO <del>SE</del> I (SEQ. ID. NO. 85)
human TCAP 4	QQLLS <del>TGR</del> VQGYD <del>GG</del> EVLS <del>VE</del> QY <del>PE</del> LS <del>DS</del> SANN <del>TH</del> EM <del>RO</del> SE <del>M</del> (SEQ. ID. NO. 94)

FIGURE 8

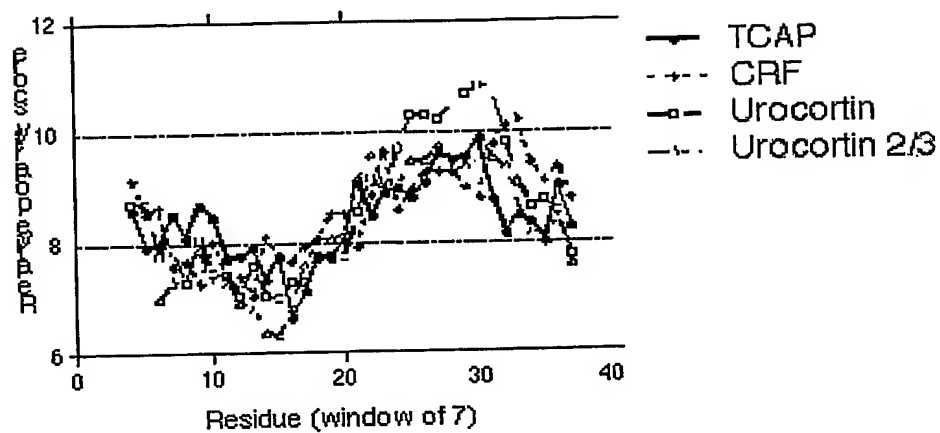
Human CRF Paralogues		SEQ ID NOS
human CRF	SEEPPLS LDITFHLLREVLEMAAEQLAQQAHSNRKEM EIT	104
human urocortin	DNPSLS IDITFHLLRTTLEFARTOSQREAEQNRI DS	105
human urocortin 2	IVLS LDPIGLLIQLLEQARARAREQATTNAR AR	106
human urocortin 3	FTLS LDPTNIMNLLNNAKAKNIERAAANAHM AQT	107
Human TCAP Paralogues		
human TCAP 1	QQLSTGRQGYDGYFVLS EQYLELS DSANNHMMRQSEI	70
human TCAP 2	QQLSTGRQGYGYVLE EQYPELA DSSNQQRRQNEM	78
human TCAP 3	QQLSAGKQGYDGYVLS EQYPELA DSANNQRRQSEI	85
human TCAP 4	QQLSTGRQGYDGGFFVLS EQYPELS DSANNHMMRQSEM	94

FIGURE 9

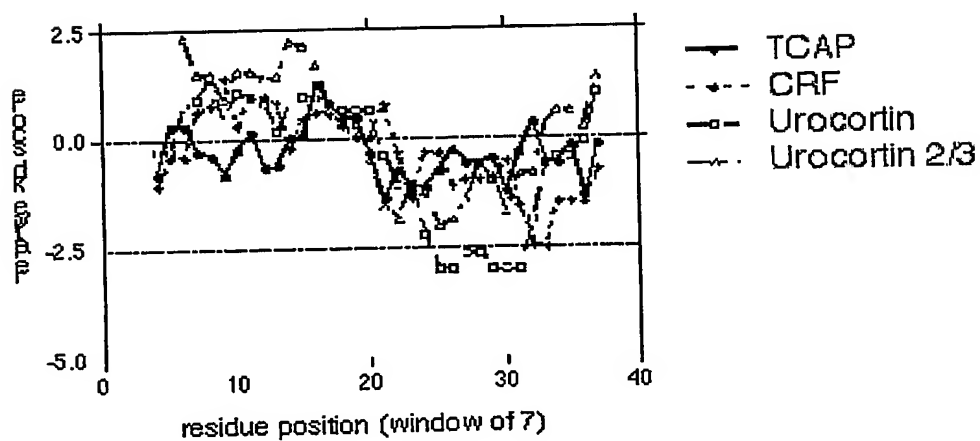
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**FIGURE 10**

## Grantham Polarity Prediction



## Kyte-Doolittle Hydrophobicity Prediction



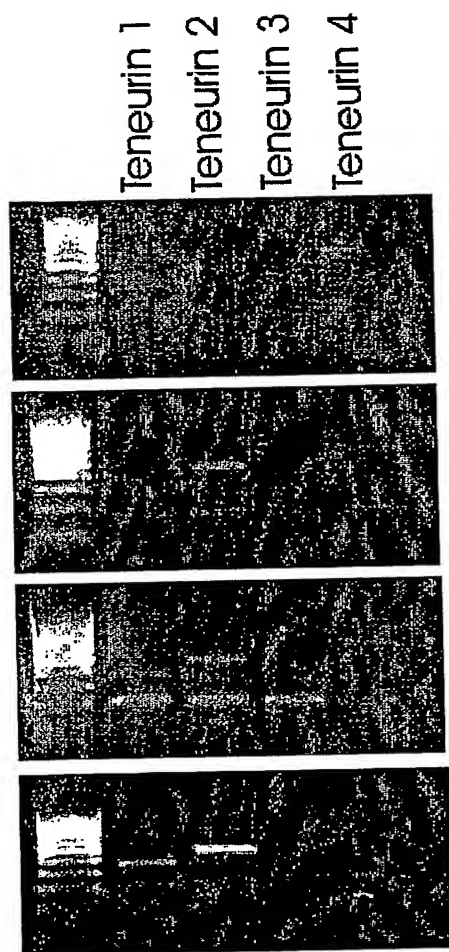
Q L L S    G R K V L G Y D G Y Y V L S I E Q Y P E    I A P S    A N N I Q F L R Q S E I - N H 2  
Q Q L L S    T G R V Q G Y D G Y F V L S I E Q Y L E    L S D S    A N N I H E R Q S E I - N H 2  
M G M G P S L S I V N P M D V I R Q R    L L E I E I A R R R    L R D A E E Q I    K A N K D E L    Q Q I - N H 2  
T G A Q S L S I V A P L D V I R Q R    I M N E L N R R R    R E L Q S R I Q O N R Q L    S I - N H 2  
S P T I S I T A P I D V I R    K T W E Q E R A R K Q M V A    Q N N R E F L    N S L N - O H  
R M P S L S I D L P M S V I R Q K    L S E K E R K V H A R A    A A N R F E L    N Q I - N H 2  
S L S V N P A V D I L Q H R    Y N E K V A    Q N N R F E L    N R V - N H 2  
T G S G P S L S I V N P L D V I R Q R    L L E I E I A R R R    R Q S Q D Q I    Q T J - N H 2  
S E E P P S L D L T F H I L R    E V E M A R A E Q    L A Q Q    A H S N R K    E I H - N H 2  
S D D P P S L D L T F H I L R    Q M E M S R A E Q    L Q Q Q    A H S N R K    E I H - N H 2  
D D P P S I D L T F H I L R    T I E L A R T Q S    Q R E R    A E Q N R I    D S V - N H 2  
Q G P P S I D L S L E I L R    K M E I E K Q E K    E K Q Q    A A N N R I    D T I - N H 2  
N D D P P S I D L T F H I L R    N M E M A R N E N    Q R E Q    A G L N R K    D E V - N H 2  
V L S L D V P I G I L R    H I E Q A R Y K A    R N Q    A A T N Q I I    A H V - N H 2  
L T L S L D V P T N I N    V L S V A K A K N    L R A K    A A E N R I I    A H I - N H 2  
F T L S L D V P T N I N    L L E N I A K A K N    L R A Q    A A A N H E M    A Q I - N H 2

O mykiss TCAP-3 (SEQ.ID.NO.13)  
R. danio TCAP-3 (SEQ.ID.NO.22)  
L. migratoria DP (SEQ.ID.NO.108)  
A. domesticus DP (SEQ.ID.NO.109)  
T. molitor DP (SEQ.ID.NO.110)  
M. sexta DP-I (SEQ.ID.NO.111)  
M. sexta DP-II (SEQ.ID.NO. 112)  
P. Americana (SEQ.ID.NO.113)  
R. norvegicus CRF (SEQ.ID.NO.104)  
O. keta CRF (SEQ.ID.NO.114)  
R. norvegicus UCN (SEQ.ID.NO.115)  
P. sauvageii SVG (SEQ.ID.NO.116)  
C. carpio UI (SEQ.ID.NO.117)  
M. musculus UCN2 (SEQ.ID.NO.118)  
R. danio UCN2 (SEQ.ID.NO.119)  
H. sapiens UCN3 (SEQ.ID.NO.107)

FIGURE 11

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**Figure 12**



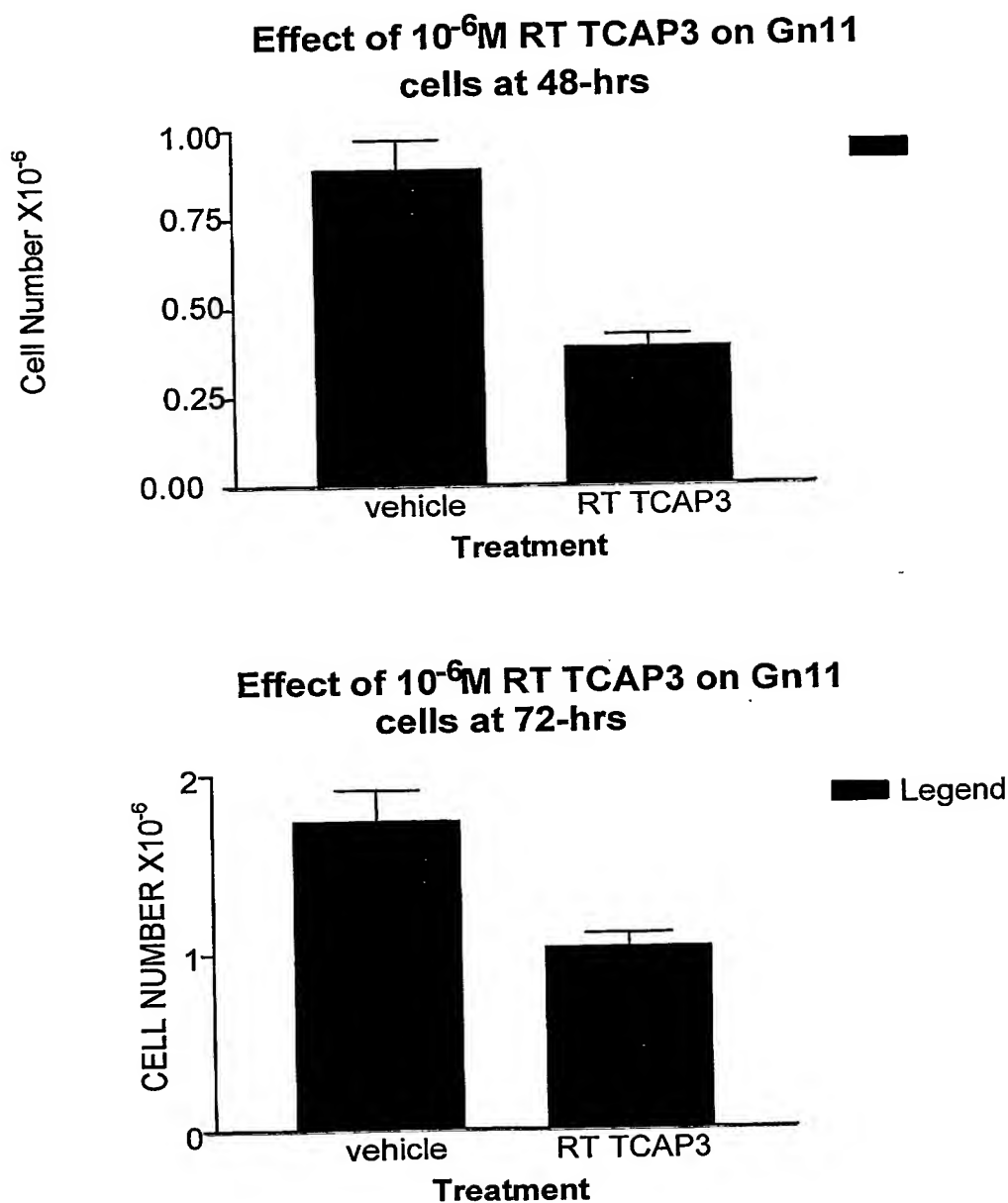
Whole Mouse Brain

NLT immortalized neurons

Gn11 immortalized neurons

Neuro2a neuroblastoma cells

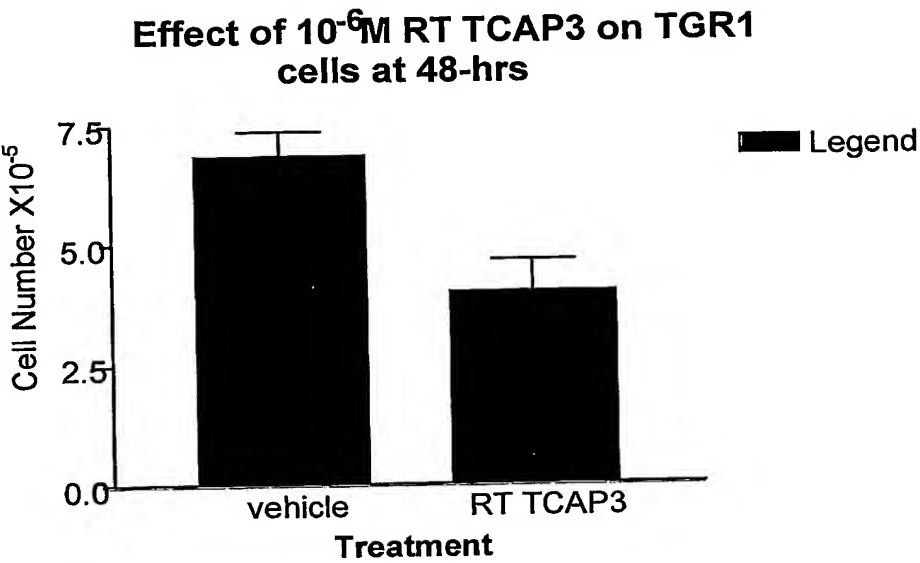
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**FIGURE 13**



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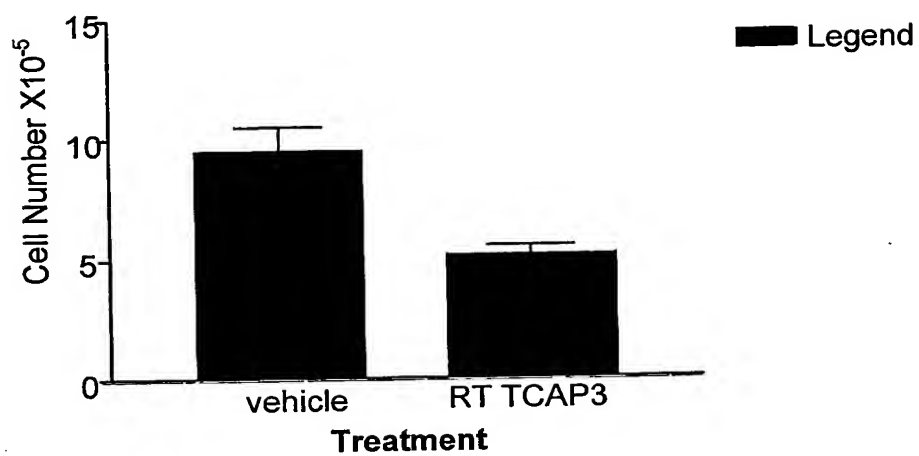
FIGURE 14



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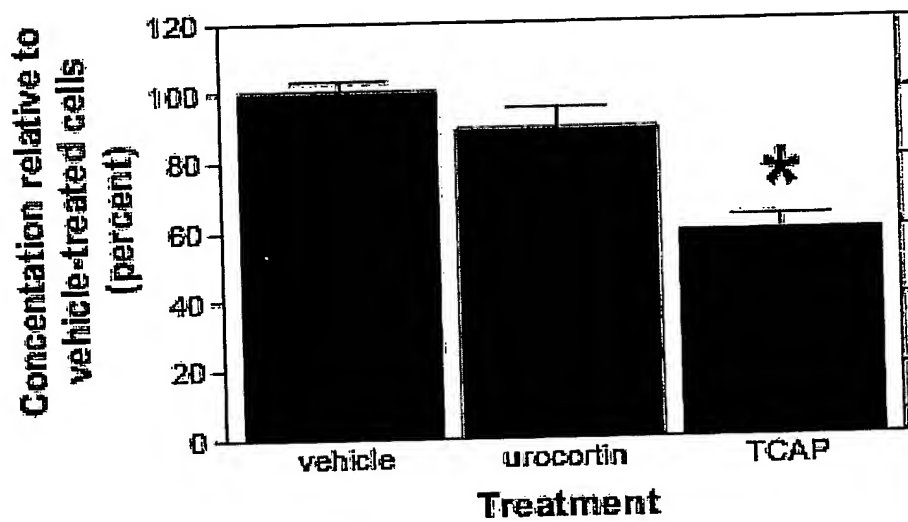
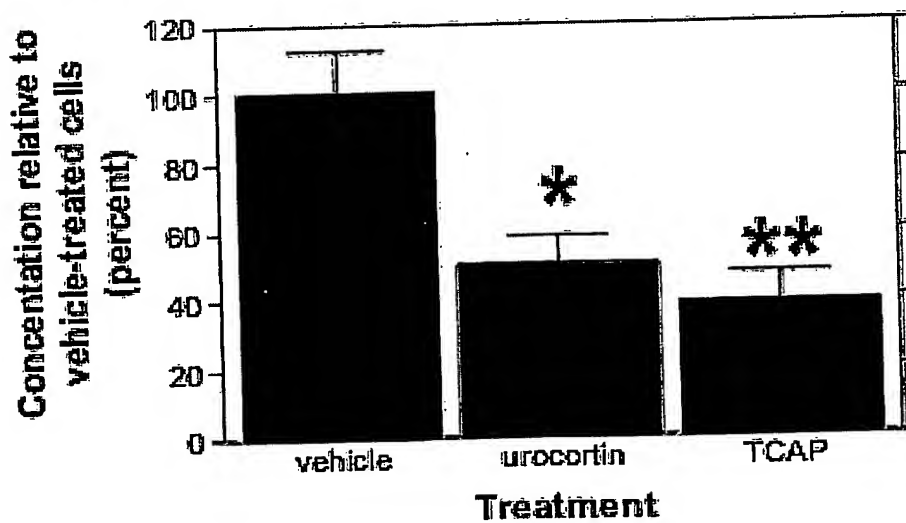
**FIGURE 15**

**Effect of  $10^{-6}$ M RT TCAP3 on  
HO16.4c cells at 48-hrs**



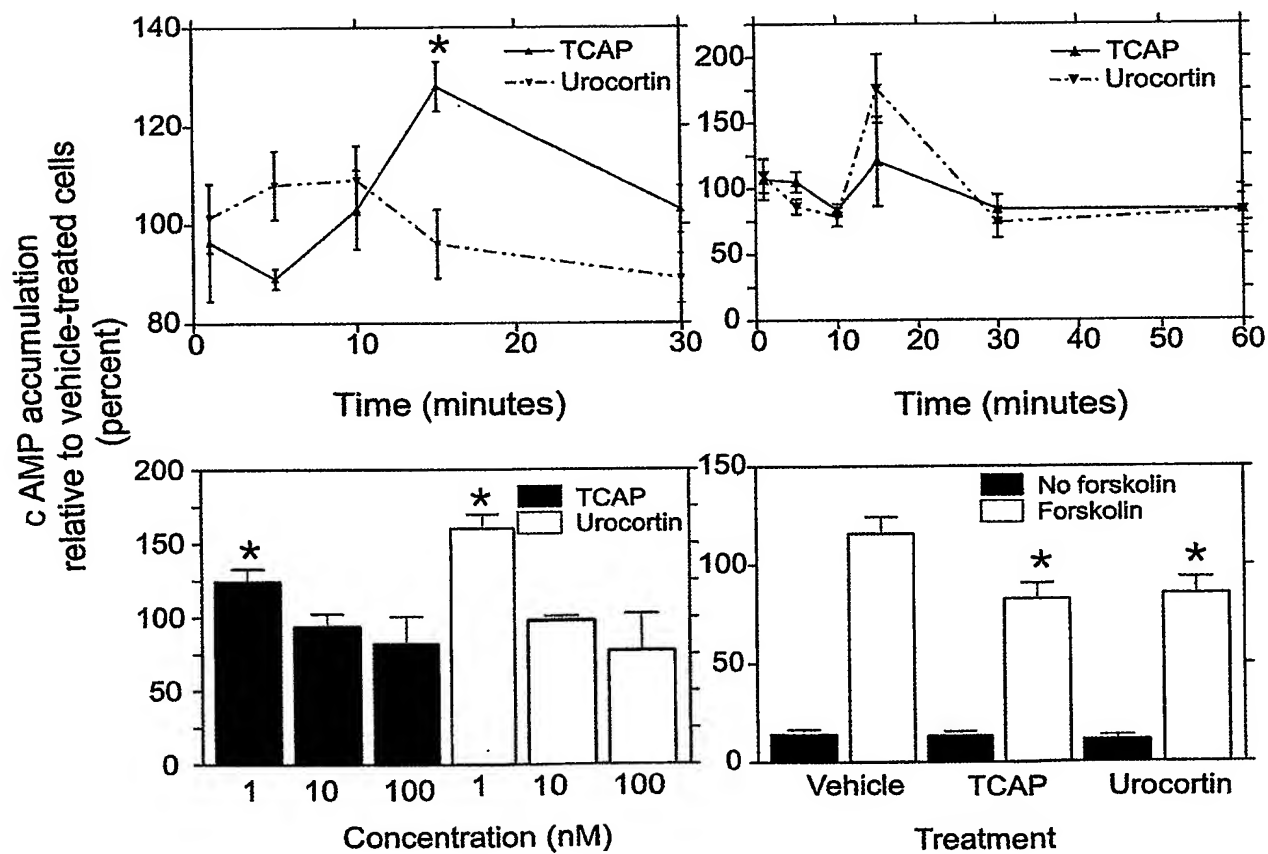
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FIGURE 16

**A cAMP****B cGMP**

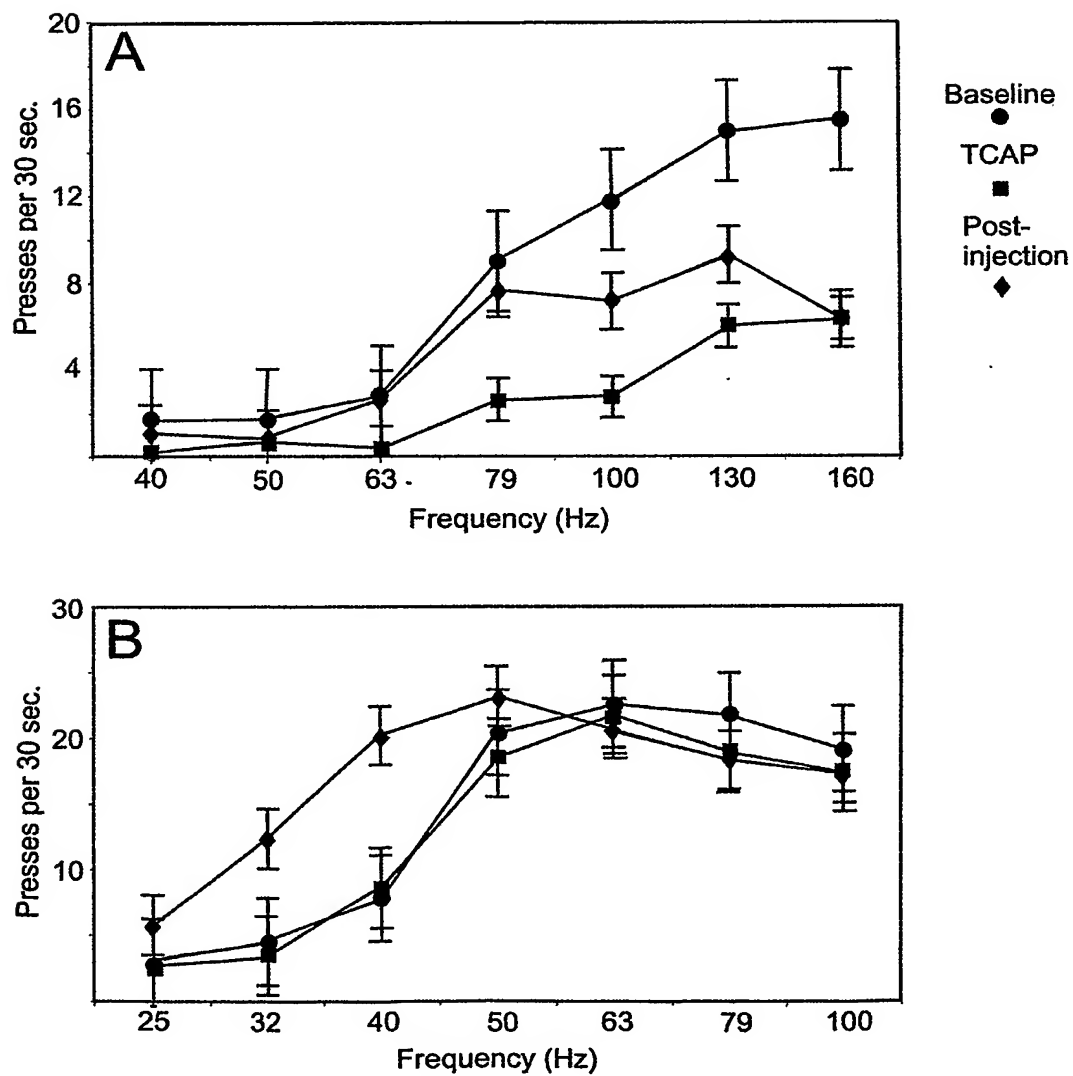
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FIGURE 17



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FIGURE 18



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FIGURE 19

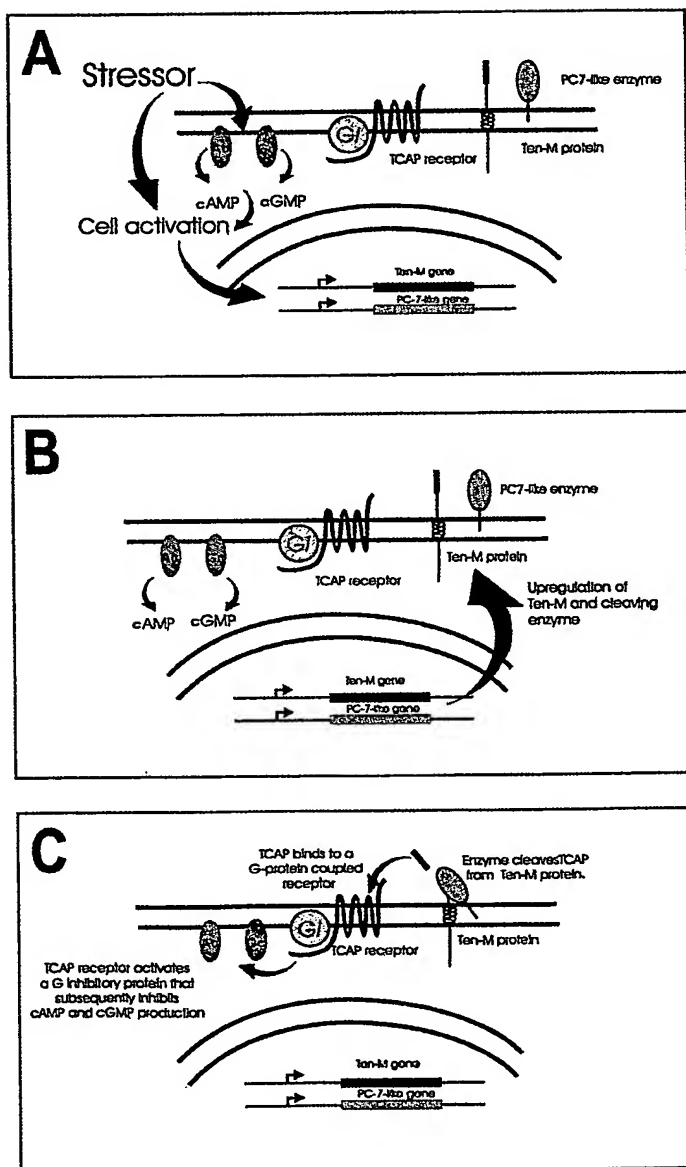
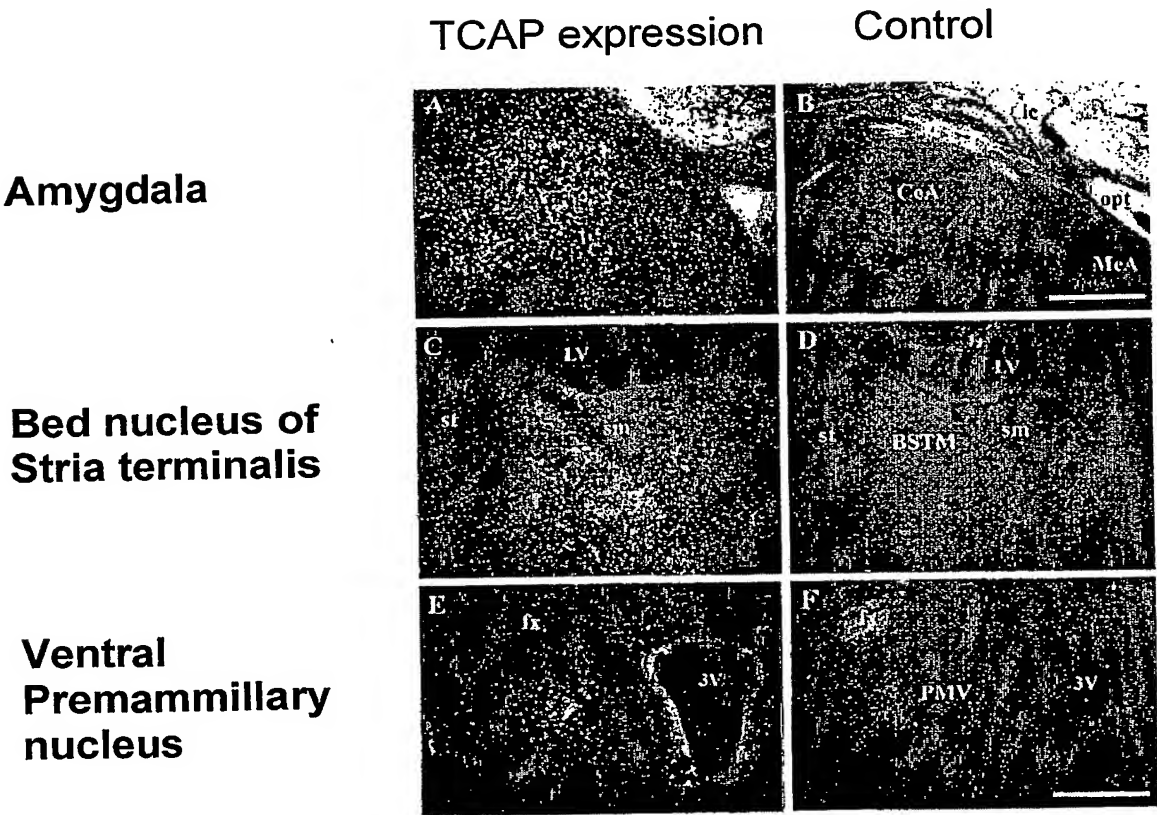


FIGURE 20

In Situ Hybridization



Vehicle-Treated Rats-ICV injected

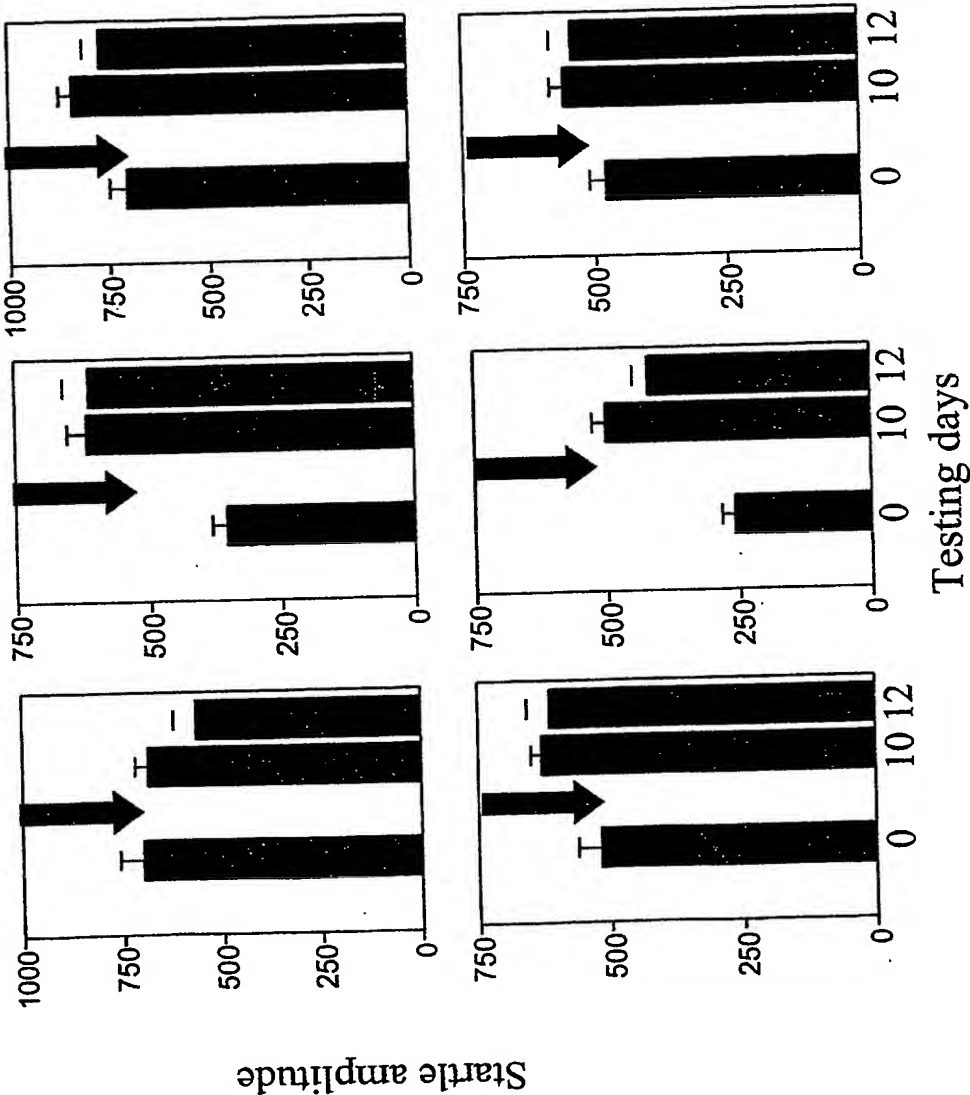


FIGURE 21A



TCAP-1 Treated Rats-ICV injected

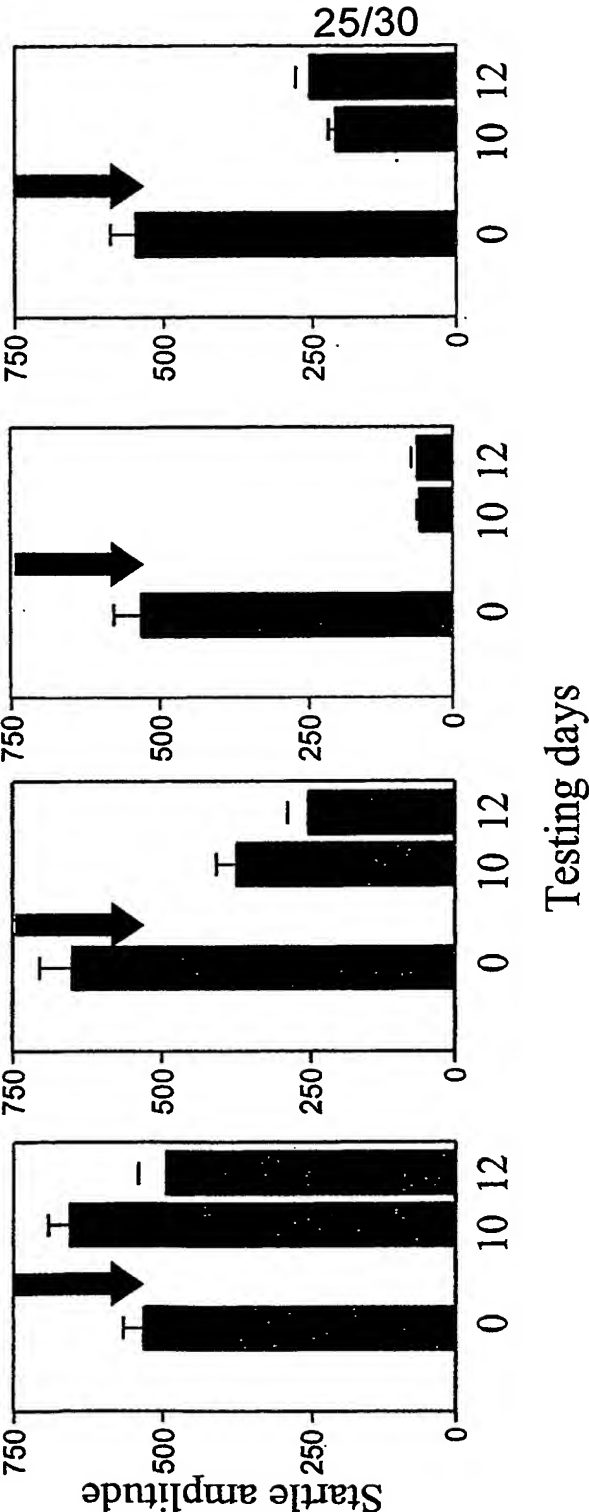
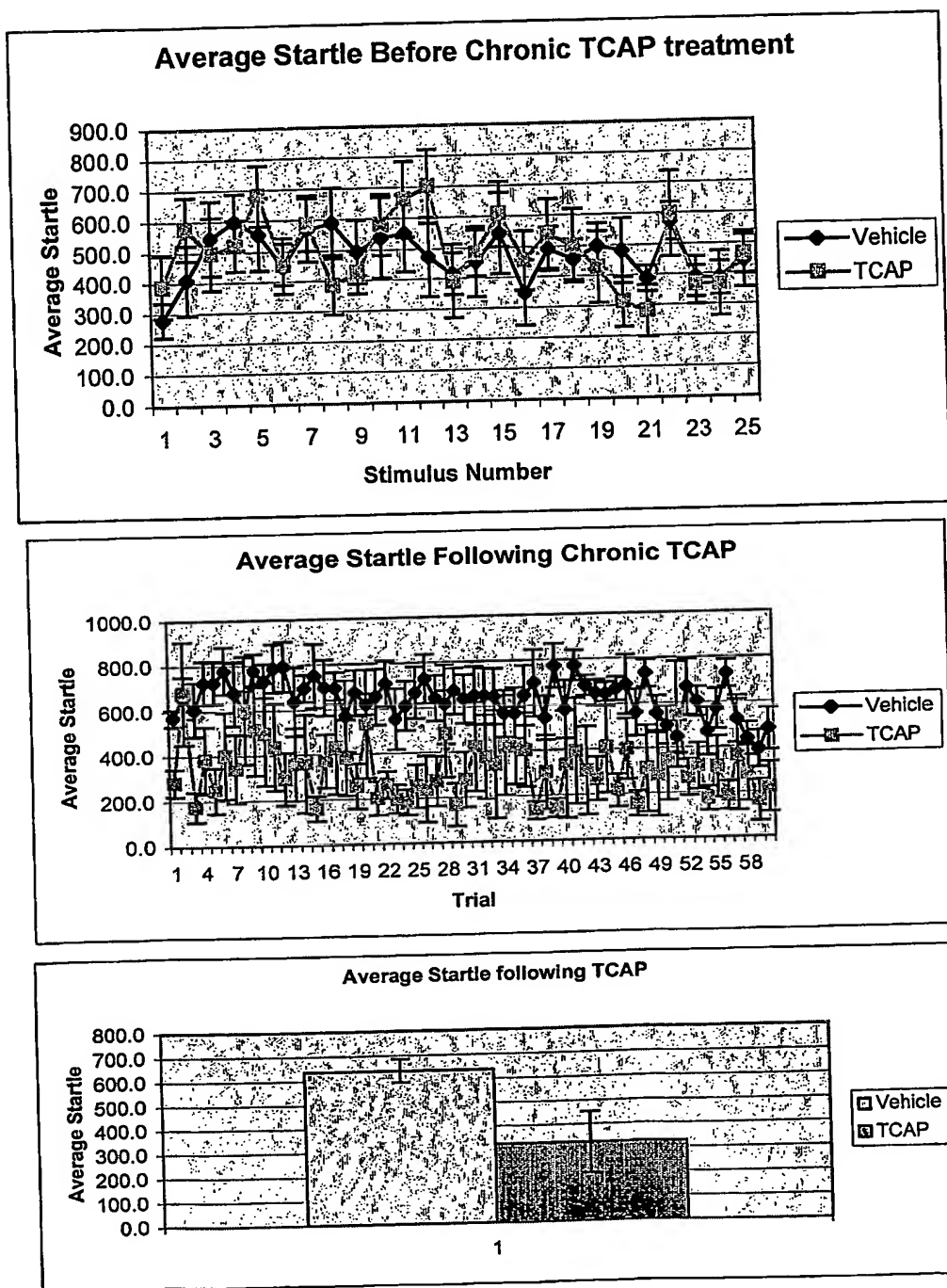


FIGURE 21B

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**FIGURE 22**

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FIGURE 23

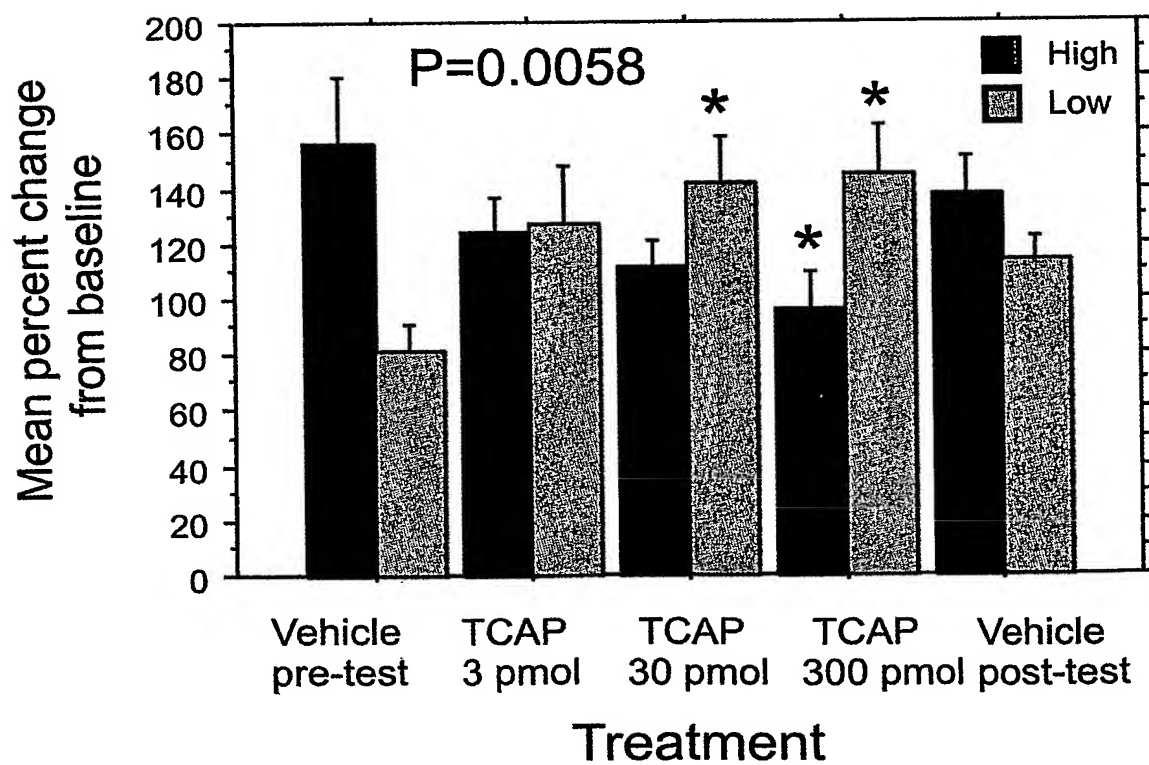
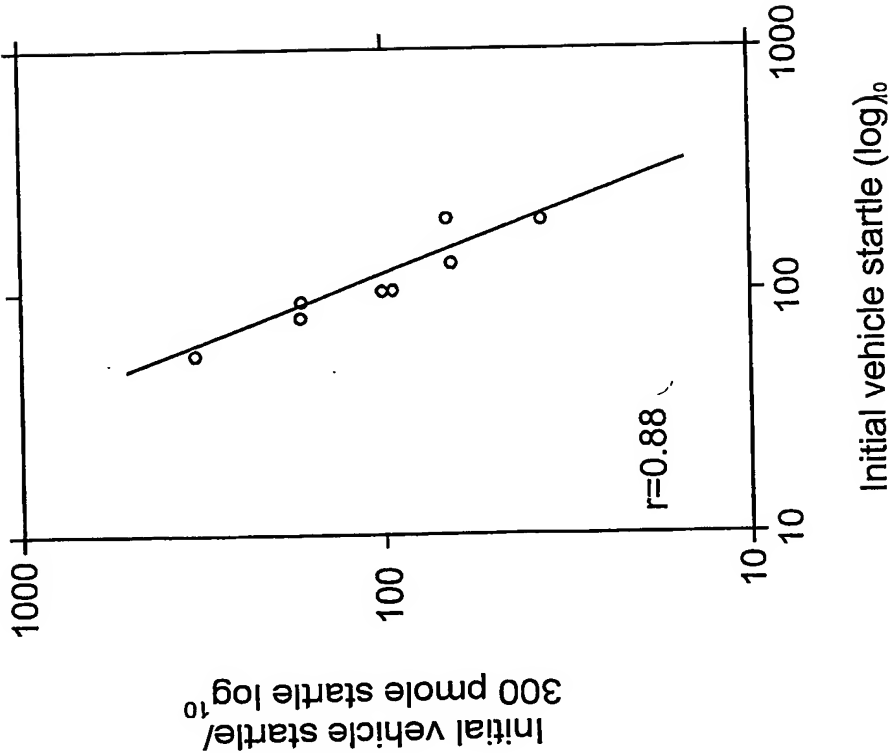


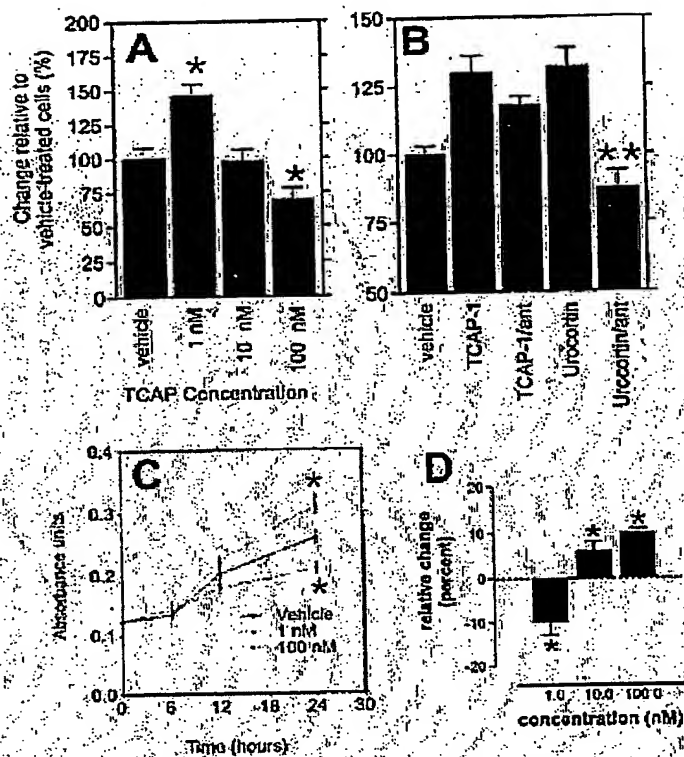
FIGURE 24

Summary of amygdala-injected TCAP-1



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FIGURE 25



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FIGURE 26

